

CLAIM AMENDMENTS

Claim 1 (currently amended):

A miter saw comprising:

a support structure having a cutting zone;

a swing arm above and pivotally attached to the support structure;

a blade supported by the ~~support structure~~ swing arm so that the blade may move into the cutting zone;

a handle associated with the swing arm and adapted so that a user may pivot the swing arm and blade into the cutting zone;

a motor adapted to drive the blade;

a detection system to detect contact between a person and the blade; and

A
a reaction system adapted to create an impulse against movement of the blade into the cutting zone upon detection by the detection system of contact between the person and the blade.

Claim 2 (original):

The miter saw of claim 1, where the reaction system is adapted to move the blade in a direction away from the cutting zone upon detection by the detection system of contact between the person and the blade.

Claim 3 (original):

The miter saw of claim 1, where the blade is rotatable, and where the reaction system is further adapted to stop rotation of the blade upon detection by the detection system of contact between the person and the blade.

Claim 4 (original):

The miter saw of claim 3, where the reaction system includes a brake mechanism adapted to engage and stop the rotation of the blade, and where the engagement of the brake mechanism with the blade creates the impulse against movement of the blade into the cutting zone.

Claim 5 (original):

The miter saw of claim 4, where the engagement of the brake mechanism with the blade moves the blade in a direction away from the cutting zone.

Claim 6 (original):

The miter saw of claim 4, where the blade has angular momentum when rotating, and where the engagement of the brake mechanism with the blade creates the impulse due, at least partially, to the angular momentum of the blade.

Claim 7 (currently amended):

The miter saw of claim 3, where the reaction system includes a brake mechanism adapted to engage and stop the rotation of the blade, and where the brake mechanism is ~~coupled to the support structure~~ adapted to maintain an operative position relative to the blade as the blade moves into the cutting zone.

Claim 8 (original):

The miter saw of claim 3, where the reaction system includes a first mechanism adapted to stop the rotation of the blade, and a second mechanism adapted to create an impulse against movement of the blade into the cutting zone.

Claim 9 (currently amended):

A miter saw comprising:

a support structure having a cutting zone;

a swing arm above and pivotally attached to the support structure;

a rotatable blade supported by the ~~support structure~~ swing arm so that the blade may move into the cutting zone;

a handle associated with the swing arm and adapted so that a user may pivot the swing arm and blade into the cutting zone;

a motor adapted to drive the blade;

a detection system adapted to detect contact between the blade and a person; and

a brake mechanism adapted to stop rotation of the blade upon detection by the detection system of contact between the blade and the person.

Claim 10 (original):

The miter saw of claim 9, where the brake mechanism is further adapted to stop movement of the blade into the cutting zone.

Claim 11 (currently amended):

The miter saw of claim 9, ~~where the support structure includes a pivot arm adapted to support the blade and selectively pivotal toward and away from the cutting zone, and~~ where the brake mechanism is further adapted to move the ~~pivot~~ swing arm away from the cutting zone.

Claim 12 (currently amended):

The miter saw of claim 9, ~~where the support structure includes a pivot arm adapted to support the blade and selectively pivotal toward and away from the cutting zone,~~ where the brake mechanism is adapted to engage the blade upon detection by the detection system of contact between the blade and the person, and where engagement of the brake mechanism with the blade causes the ~~pivot~~ swing arm to pivot away from the cutting zone.

Claim 13 (currently amended):

The miter saw of claim 12, where the blade has angular momentum when rotating, and where the engagement of the brake mechanism with the blade causes the ~~pivot~~ swing arm to pivot away from the cutting zone, due at least ~~partially,~~ partially to the angular momentum of the blade.

Claim 14 (currently amended):

The miter saw of claim 9, ~~where the support structure includes a pivot arm adapted to support the blade and selectively pivotal toward and away from the cutting zone,~~ and further comprising a second brake mechanism adapted to stop the ~~pivot~~ swing arm from pivoting toward the cutting zone upon detection by the detection system of contact between the blade and the person.

Claim 15 (currently amended):

The miter saw of claim 9, ~~where the support structure includes a pivot arm adapted to support the blade and selectively pivotal toward and away from the cutting zone, and~~ further comprising a second brake mechanism adapted to move the ~~pivot~~ swing arm away from the cutting zone upon detection by the detection system of contact between the blade and the person.

Claim 16 (currently amended):

The miter saw of claim 9, where the blade has teeth, and where the brake mechanism includes at least one brake pawl adapted to pivot into the teeth of the blade and further adapted so that the teeth cut into the pawl to stop the blade.

Claim 17 (currently amended):

A miter saw comprising:

a base having a cutting region;

a swing arm above and pivotally attached to the base;

a blade supported by the swing arm;

a handle associated with the swing arm and adapted so that a user may pivot the swing arm and blade into the cutting region;

a brake system adapted to brake the blade; and

a linkage between the ~~blade~~ swing arm and base, where the linkage is configured to cause the ~~blade~~ swing arm and blade to move away from the cutting region when the brake system brakes the blade.

Claim 18 (currently amended):

The miter saw of claim 17 where the blade is rotatable, where the blade has an angular momentum when rotated, and where the linkage is configured so that the angular momentum of the blade causes the swing arm and blade to move away from the cutting region when the brake system brakes the blade.

Claim 19 (currently amended):

A miter saw comprising:

a base;

a swing arm above and pivotally attached to the base;

a housing ~~pivotaly connected to~~ supported by the base swing arm;

a blade supported by the swing arm;

a handle associated with the swing arm and adapted so that a user may pivot the swing arm and blade toward the base;

a mounting system holding the blade in the housing; and

a brake system adapted to brake the blade;

where the mounting system is configured so that the blade pivots into the housing when the brake system brakes the blade.

Claim 20 (currently amended):

A miter saw comprising:

a base configured to support a workpiece to be cut;

a swing arm positioned above ~~supported by~~ the base and adapted to move toward a workpiece ~~to be cut~~ supported by the base;

a blade mounted to move with the swing arm to contact the workpiece when the swing arm moves toward the workpiece;

a handle associated with the swing arm and adapted so that a user may move the swing arm and blade toward the workpiece;

a detection system adapted to detect ~~a dangerous condition~~ contact between a person and the blade; and

a reaction system adapted to interrupt the movement of the blade and swing arm upon the detection by the detection system of ~~the dangerous condition~~ contact between the person and the blade.

Claim 21 (original):

The miter saw of claim 20, further comprising a piston/cylinder to limit the speed with which the swing arm can move.

Claim 22 (original):

The miter saw of claim 20, where the swing arm includes a cam portion, and further comprising a pawl adapted to engage the cam portion to stop the movement of the swing arm toward the workpiece upon the detection of the dangerous condition.

Claim 23-25 (canceled).

Claim 26 (currently amended):

A miter saw comprising:

a base;

a swing arm above and pivotally attached to the base;

a blade supported by the base swing arm;

a handle associated with the swing arm and adapted so that a user may pivot the swing arm and blade toward the base;

a detection system adapted to detect a dangerous condition between a person and the blade; and

reaction means associated with the detection system for causing a predetermined action to take place upon detection of the dangerous condition.

Claim 27 (original):

The miter saw of claim 26, where the blade is rotatable, and where the predetermined action is to stop the blade from rotating.

Claim 28 (original):

The miter saw of claim 26, where the base has a cutting zone, where the blade is adapted to move into the cutting zone to cut a workpiece, and where the predetermined action is to create an impulse against movement of the blade into the cutting zone.

Claim 29 (original):

The miter saw of claim 26, where the base has a cutting zone, where the blade is adapted to move into the cutting zone to cut a workpiece, and where the predetermined action is to cause the blade to move away from the cutting zone.
